FIG. 1

IWF

UPPER SERVICE (WEB SERVICE)
NETWORK PROTOCOL (IP)
LINK PROTOCOL (PPP)
RELAY LAYER

DATA NETWORK (INTERNET)

BS/MSC

	RELAY LAYER
RLP	
IS-2000	

MT

	RLP
IS-2000	
EIA-232	

MS

TE

UPPER SERVICE (WEB SERVICE)
NETWORK PROTOCOL (IP)
LINK PROTOCOL (PPP)
EIA-232

FIG. 2

MS

110 — LINK PROTOCOL PROCESSOR

124 — RX DATA BUFFER

122 — TX DATA BUFFER

130 — RLP PROCESSOR

140 — MUX/DEMUX CONTROLLER

150 — PHYSICAL LAYER PROCESSOR

BS

LINK PROTOCOL PROCESSOR — 210

RX DATA BUFFER — 224

TX DATA BUFFER — 222

RLP PROCESSOR — 230

MUX/DEMUX CONTROLLER — 240

PHYSICAL LAYER PROCESSOR — 250

PHYSICAL CHANNEL

FIG. 3

```
                        124
                         |
                  ┌──────────────┐
                  │   RX  DATA   │
                  │    BUFFER    │
                  └──────────────┘
                         ↕        131
                  ┌──────────────┐
134 ──┤    E    ├◄──►│              │◄──►┤ NAK  LIST ├── 137
                  │     RLP      │
135 ──┤  L_V(N) ├◄──►│  CONTROLLER  │
                  │              │
136 ──┤  L_V(R) ├◄──►│              │◄──►┤ REARRANGE ├── 138
                  └──────────────┘     │  BUFFER   │
                         ↕
                  ┌──────────────┐
                  │  MUX/DEMUX   │── 140
                  │  CONTROLLER  │
                  └──────────────┘
                         ↕
                  ┌──────────────┐
                  │PHYSICAL LAYER│── 150
                  │  PROCESSOR   │
                  └──────────────┘
```

FIG. 4

FIG. 5A

DATA BLOCK (RLP FRAME)

HEADER — 10 BITS

DATA

728 BITS

738 BITS

FIG. 5B

MuxPDU

H — 6 BITS

RLP

738 BITS

744 BITS

FIG. 5C

LTU

CRC — 16 BITS

MuxPDU

744 BITS

760 BITS

FIG. 5D

307.2kbps PHYSICAL FRAME

M | C | M | C | ..... | M | C | 0000... | CRC | TAIL

760 BITS | 760 BITS | 760 BITS | 760 BITS | 40 BITS | 16 BITS | 8 BITS

6120 BITS

FIG. 6A

760BITS

001	000	DATA BLOCK	CRC

6BITS

738BITS

16BITS

FIG. 6B

760BITS

010	101	00101010	DATA BLOCK	111	000	0000000...0	CRC

14BITS

330BITS

6BITS

394BITS

16BITS

FIG. 6C

760BITS

111	000	00000000000000000000...0	CRC

6BITS

738BITS

16BITS

SYNC, SYNC/ACK, ACK FRAME

8BITS	16BITS	16BITS		1BIT
SEQ	CTL	FCS	PADDING	TYPE

CTL '11110001' FOR SYNC, '11110010' FOR
SYNC/ACK, '11110011' FOR ACK, TYPE='1'

FIG. 7A

FUNDICATED DATA FRAME

8BITS	160/256BITS		1BIT	1BIT
SEQ	DATA	PADDING	REXMIT	TYPE
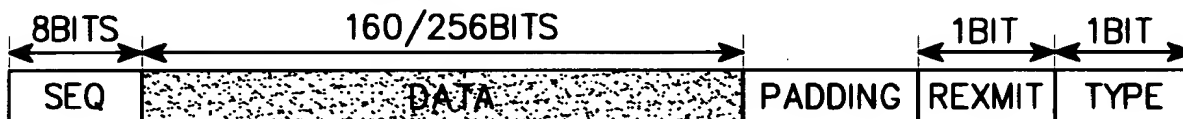
TYPE='0'

FIG. 7B

FUNDICATED DATA FRAME

8BITS	8BITS	152/248BITS		1BIT	1BIT
SEQ	SEG	DATA	PADDING	CTL_HI	TYPE
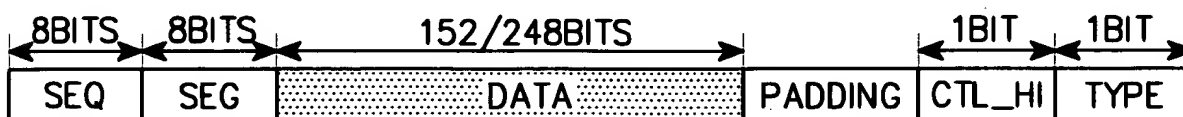
CTL_HI='0', TYPE='1'

FIG. 7C

FUNDICATED DATA FRAME

8BITS	2BITS	1BIT	5BITS	(LEN+1)*8BITS		1BIT	1BIT
SEQ	CTL	REXMIT	LEN	DATA	PADDING	CTL_HI	TYPE

CTL_HI='1',CTL='00',TYPE='1'

FIG. 7D

FUNDICATED DATA FRAME

8BITS	2BITS	1BIT	13BITS	144/240BITS		1BIT	1BIT
SEQ	CTL	END	SEG	DATA	PADDING	CTL_HI	TYPE

CTL_HI='1',CTL='10',TYPE='1'

FIG. 7E

FUNDICATED DATA FRAME

8BITS	5BITS	1BIT	5BITS	13BITS	(LEN+1)*8BITS		1BIT	1BIT
SEQ	CTL	END	LEN	SEG	DATA	PADDING	CTL_HI	TYPE

CTL_HI='1',CTL='11000',TYPE='1'
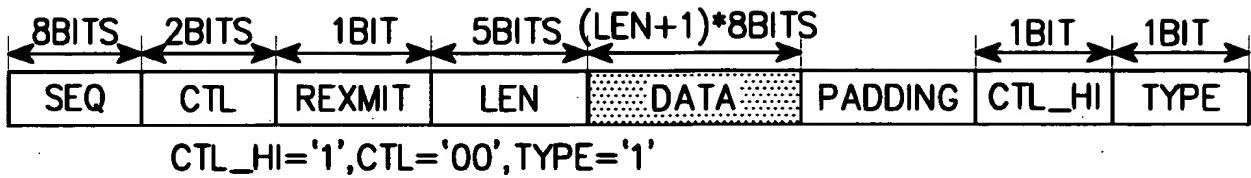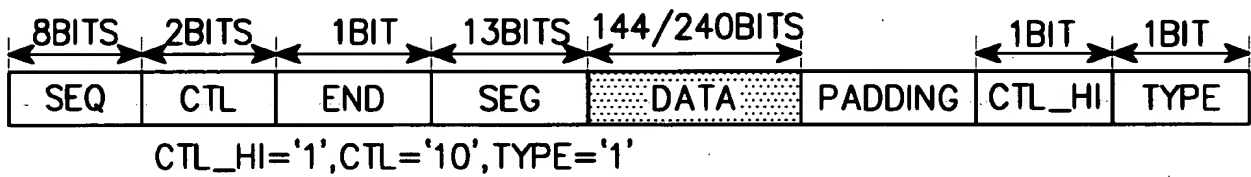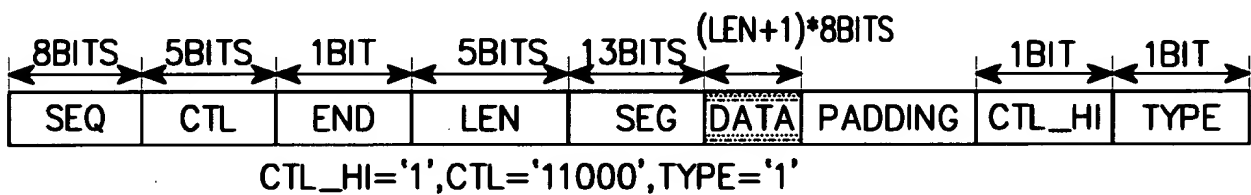
FIG. 7F

IDLE FRAME(1/8 RATE ONLY)

12BITS	
SEG	PADDING

FIG. 7G

SUPPLEMENTAL DATA FRAME

1BIT	1BIT	1BIT	
TYPE	REXMIT	SEQ	DATA
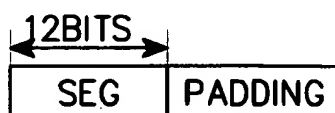
TYPE='0'

FIG. 8A

SUPPLEMENTAL DATA FRAME

1BIT	1BIT	8BITS	8BITS	
TYPE	CTL	SEQ	SEG	DATA

TYPE='1',CTL='0'

FIG. 8B

SUPPLEMENTAL DATA FRAME

1BIT	3BITS	1BIT	8BITS	13BITS	
TYPE	CTL	END	SEQ	SEG	DATA

TYPE='1',CTL='100'

FIG. 8C

SIGNALING LAC LAYER	1ST SERVICE	2ND-6TH SERVICES	MUX/DEMUX CONTROLLER

S10 ← POSSIBILE SIZE

S11 → PROPER DATA BLOCK

S11a — | DETERMINE SERVICE TRANSMISSION ORDER |

S12 ← DATA BLOCK REQUEST

S13 → DATA BLOCK

S14 — | · ACCUMULATE TX DATA BLOCKS
· CALCULATE REMAINING TRANSMITTABLE BLOCK |

S15 — ◇ ENOUGH DATA BLOCKS ACCUMULATED? — NO

YES

S16 — | ASSEMBLE ACCUMULATED DATA BLOCKS INTO MuxPDU |

S17 — TO PHYSICAL LAYER ← SEND MuxPDU TO PCH CONTROLLER

FIG. 9

FCH RECEIVING

SIGNALING LAC LAYER	1ST SERVICE	2ND–6TH SERVICES	MUX/DEMUX CONTROLLER

S20 — ANALYZE MuxPDU HEADER

S21 — SEPARATE 1ST SERVICE DATA BLOCK

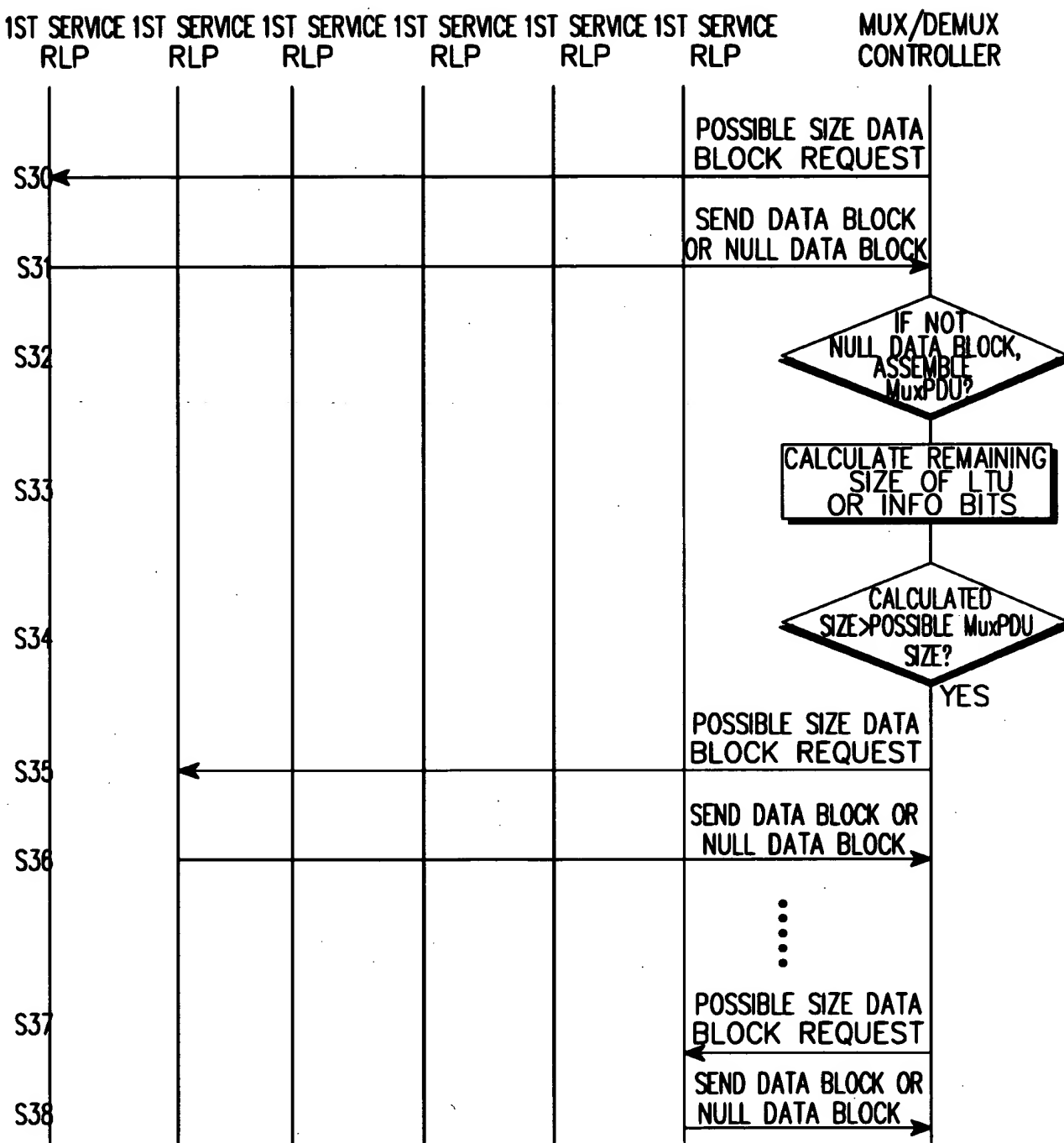S22 — SEPARATE 2ND–6TH SERVICE DATA BLOCK

S23 — SEND DATA BLOCK WITH LENGTH INFO

FIG. 10

SCH TRANSMISSION

FIG. 11

SCH TRANSMISSION

1ST SERVICE RLP	2ND SERVICE RLP	3RD SERVICE RLP	4TH SERVICE RLP	5TH SERVICE RLP	6TH SERVICE RLP	MUX/DEMUX CONTROLLER

S40 — SEPARATE MuxPDU FOR LTU OR INFO BITS

S41 — DETERMINE SERVICE RLP FROM WHICH DATA BLOCK IS TO BE TRANSMITTED

SEND RX DATA BLOCK AND DATA BLOCK LENGTH

S42

S43

FIG. 12